

THE BIRDS OF CENTRAL INDIA.

BY

SÁLIM ALI.

WITH NOTES BY HUGH WHISTLER.

PART II.

(Continued from page 106 of this Volume).

Picus xanthopygaeus (Grey). The Little Scaly-bellied Green Woodpecker

Specimens collected: *Bhōpāl*: 66 ♂ 11-1-38 Sānchi.

Elsewhere not noted.

Rare.

Dryobates mahrattensis (Latham). The Yellow-fronted Pied Woodpecker.

Specimens collected: *Bhōpāl*: 23 ♂ 8-1-38 Sānchi, 76 ♂ 14-1-38 Dōdi, 196 ♂, 197 ♀ 25-1-38 Mathār. *Gwālior*; 287 ♀ 15-2-38 Kūno, 884 ♂ 19-9-38 Bāgh. *Indore*: 730 ♀ 27-8-38 Bijwār.

Elsewhere noted: *Gwālior*: Satanwāra, Narwar Fort, Sūrwaya, Bhind.

[As pointed out in the Eastern Ghats Survey (*J.B.N.H.S.*, xxxvii, 288) the recognition of 2 races of this woodpecker is only really feasible if birds from the extreme North-west and birds from the South of India are compared. This series can only be considered intermediate. 287 ♀ from Kūno (wing 103.5) would pass as a typical *aurocristatus*. No. 884 ♂ from Bāgh (wing 99 mm.) would pass as *mahrattensis mahrattensis*. But with them must be considered the 3 birds from Mhow collected by Briggs (*J.B.N.H.S.*, xxxv, 394) which were certainly intermediates, whilst the present *Bhōpāl* series (viz. 3 ♂ wing 105, 107, 101 mm., and 1 ♀ 101 mm.) are the size of *aurocristatus* and the colour of *mahrattensis*. H. W.]

Common. Nest-hole on underside of horizontal mango branch, about 4 ft. from ground, containing apparently half-grown chicks, 16 April (Bhind); both parents feeding. A specimen found dead under a tree after severe hailstorm overnight, Mathār 25 January.

Dryobates hardwickii hardwickii (Jerdon). The Southern Indian Pigmy Woodpecker.

Specimens collected: *Gwālior*: 859 ♂ 15-9-38 Amjhēra. *Dhār*: 800 [♀], 801 ♂ 6-9-38 Gūjri, 844 ♂ 11-9-38 Māndu.

Elsewhere noted: *Bhōpāl*: Mathār, Jaithāri.

Almost invariably present in mixed hunting parties that contain *Sitta castanea*.

Brachypternus benghalensis benghalensis (Linn.) The Golden-backed Woodpecker.

Specimens collected: *Bhōpāl*: 10 ♂ 7-1-38, 21 ♂ 8-1-38 Sānchi, 132 ♀ 18-1-38 Dōdi. *Gwālior*: 260 ♂ 12-2-38 Kūno, 642 ♂ 12-4-38 Chandēri. *Indore*: 695 ♂ 23-8-38 Bijwār.

Elsewhere noted: *Gwālior*: Gwālior Fort, Sūrwaya.

Fairly common.

Chrysocolaptes festivus (Bodd). The Black-backed Woodpecker.

Specimens collected: *Indore*: 749 ♀ 30-8-38, 750 ♂ 31-8-38 Chōral.

Elsewhere noted: Chandēri.

lynx torquilla torquilla (Linn.) The European Wryneck.

Specimens collected: *Gwālior*: 301 ♀ 19-2-38, 318 ♀ 20-2-38 Kūno, 578 ♂ 29-3-38 Badarwās.

Elsewhere noted: *Bhōpāl*: Dōdi. *Dewas*: Near town.

Earliest date 23 September; latest 29 March. Usually solitary. Flight and habit of twitching wings on alighting very finch-like.

Thereceryx zeylanicus caniceps (Franklin). The Northern Green Barbet.

Specimens collected: *Bhōpāl*: 200 ♂, 201 ♀ 26-1-38 Mathār. *Gwālior*: 623 ♀ 7-4-38 Chandēri.

Elsewhere not noted.

[Nos. 200 and 201 with wings of 116.5 (♂) and 115 (♀) respectively clearly belong to the race *caniceps*. No. 623 (♀ wing 121.5) from further north, however, is as one would expect, considerably closer to *T. z. kangrae* (cf. *J.B.N.H.S.*, xxxvii, 515) and is best regarded as an intermediate. H.W.]

Xanthoelma haemacephala indica (Latham). The Indian Crimson-breasted Barbet.

Specimens collected: *Bhōpāl*: 67 ♀ 11-1-38 Sānchi. *Gwālior*: 384 ♀ 28-2-38 Satanwāra, 445 ♂ 8-3-38 Narwar Fort.

Elsewhere noted: *Bhōpāl*: Bhōpāl City, Jaithāri. *Gwālior*: Sūrwaya. *Indore*: Bijwār, Chōral. *Dhār*: Māndu.

Not common. Largest ovarian follicle of specimen 28 February 5 mm.

Cucuius canorus ssp. The Cuckoo.

Specimen collected: *Dhār*: 829 ♂ juv. 9-9-38 Māndu.

Elsewhere not noted.

[This young cuckoo is in juvenile plumage and agrees very well, allowing for the individual variation which is common in juveniles, with specimens of the dark phase from the Western Himalayas. It therefore presumably belongs to the typical form. It will be remembered that Briggs procured adult cuckoos at Mhow in June and July which, from the state of their organs, appeared to be breeding and it is quite likely therefore that this juvenile was hatched in the neighbourhood where it was collected—H.W.]

Hierococcyx varius (Vahl). The Common Hawk-Cuckoo.

Specimen collected: *Gwālior*: 868 ♀ juv. 16-9-38 Sardārpūr.

Elsewhere noted: *Gwālior*: Chandēri, *Indore*: Bijwār. *Dhār*: Gūjri.

Not noted in Bhōpāl or Gwālior between 4 January and 13 April when the first in Central India was heard and seen. Not common, but possibly overlooked when silent.

Cacomantis merulinus subsp.? The Plaintive Cuckoo.

No specimens.

Noted: *Indore*: Bijwār. *Dhār*: Gūjri, Māndu.

* Silent and not observed between January and May.

Clamator jacobinus pica (Hempr. & Ehr.) The Pied Crested Cuckoo.

Specimens collected: *Dhār*: 852 ♂ 13-9-38 Māndū. *Gwālior*: 867 ♂ 16-9-38, 877 ♂ 17-9-38 Sardārpūr.

Elsewhere noted: *Dhār*: Gūjri, *Gwālior*: Gwālior Fort, Tānda near Bāgh. *Indore*: Bijwār, Chōral, Simrōl.

Not noted during the period from January to May. Fairly common in August/September. 877 was a young bird with imperfectly ossified skull. Testes of 852 6 x 4 mm.

Eudynamis scolopaceus scolopaceus (Linn.) The Indian Koel.

Specimens collected: *Gwālior*: 676 ♂ 19-4-38 Bhind. *Indore*: 767 ♀ juv. 1-9-38 Chōral.

Elsewhere noted: *Gwālior*: Shivpūri, Gūna, Rūthiai.

[No. 767 is a juvenile female and it has the characteristic blackish plumage, far darker on the upper parts, throat and breast than the adult ♀ which I have already remarked on (*Ibis*, 1937, p. 408) as being obviously a protective device to avoid wakening any suspicions in the foster parents.—H.W.]

Before the beginning of April only the high pitched *kück-kück-kück* was heard and the birds were silent on the whole. The regular calls or crescendo 'songs'—*kū-oo*, *kū-oo* etc. were fairly common in April, and also heard in

August/September when they were not common and apparently on the wane. 676 had testes enlarged to 9×7 mm. A nearly full-fledged juvenile being fed by House Crows in nest on 23 August!

Taccocua leschenaultii leschenaultii Lesson. The Southern Sirkeer Cuckoo.

Specimens collected: *Bhōpāl*: 129 ♂ 18-1-38, 143 ♀ 19-1-38 Dōdi; 161 ♂, 162 ♂ Mathār. *Gwālior*: 469 ♂ 13-3-38 Narwar Fort. *Indore*: 720 ♀ 25-8-38 Bijwār.

Elsewhere noted: *Bhōpāl*: Jaithāri, *Gwālior*: Sūrwaya, Badarwās, Bhind, *Dhār*: Māndū.

[In *J.B.N.H.S.*, xxxv, 396 I identified two birds collected by the Rev. Frank S. Briggs as the Northern race *sirkee*, but they must now be considered afresh with the series obtained by the Survey. In colour the series is variable. In size, however (6♂♂ wing 146-157 mm., 2♀♀ wing 153-158 mm.) they are so much smaller than the largest *sirkee* (North Punjab 5♂♂ wing 160-166; 5♀♀ 160-167 mm.) that I feel they might be attributed to *leschenaultii*, although somewhat intermediate in character, even the Narwar bird.—H.W.]

Common. In dry stony grass-and-thorn jungle. 720 (25 August) with white-shelled oviduct egg.

Centropus sinensis parroti Stres. The Southern Crow-Pheasant.

Specimens collected: *Gwālior*: 403 ♂ 2-3-38 Satanwāra.

Elsewhere noted: *Bhōpāl*: Bhōpāl City and Environs, Sānchi, Dōdi. *Gwālior*: Kūno, Narwar Fort, Sūrwaya, Gūna. *Indore*: Indore City and Environs. *Dhār*: Gūjri.

[♂ wing 201 mm. Interscapulars black; lower wing coverts chestnut and black mixed.—H.W.]

Psittacula eupatria nepalensis (Hodgs). The Large Indian Paroquet.

Specimen collected: *Gwālior*: 271 ♀ 14-2-38 Kūno (Wing 205; tail 301 mm.).

Elsewhere noted: *Bhōpāl*: Mathār, Jaithāri. *Gwālior*: Narwar, Badarwās, *Dhār*: Māndū.

Breeding in January and February. Specimen (14 February) had soft ovarian eggs. Juveniles about a month old taken from hole in tree 25 January.

Psittacula krameri borealis Neum. The Eastern Rose-ringed Paroquet.

Specimens collected: *Bhōpāl*: 123 ♀ 18-1-38 Dōdi; 254 ♂ 2-2-38 Jaithāri.

Elsewhere noted: *Bhōpāl*: Bhōpāl City, Dewānganj, Sānchi, Mathār. *Gwālior*: Kūno, Satanwāra, Sūrwaya, Badarwās, Chandēri, Bhind, Bāgh. *Indore*: Indore City, Bijwār, Chōral, Mhow. *Dhār*: Māndū.

[The specimens are of course really intermediate but in measurement they just reach the minima of Panjab birds. I have already suggested (*J.B.N.H.S.*, xxxvii, 752) an arbitrary boundary between the 2 races at 20° N. latitude so these can be called *borealis*.—H.W.]

Common. Breeding in January and February. Ovary of 123 granular; testes of 254 19×8 mm.

Psittacula cyanocephala bengalensis (Forst.). The Eastern Blossom-headed Paroquet.

Specimens collected: *Bhōpāl*: 149 ♂, 150 ♀, 151 ♂, 152 ♀ 21-1-38 Mathār.

Elsewhere noted: *Bhōpāl*: Sānchi, Jaithāri. *Gwālior*: Satanwāra, Narwar Fort, Sūrwaya, Badarwās, Chandēri, Bhind, Sardārpūr, Bāgh. *Dhār*: Gūjri.

Common in dry teak and *kher* forest. Breeding or about to breed in January. Largest ovum of 150 2 mm. in diameter; testes of 149 7×5 mm.

Coracias benghalensis benghalensis Linn. The Indian Roller.

Specimen collected: *Bhōpāl*: 54 ♂ 10-1-38 Sānchi.

Elsewhere noted: *Bhōpāl*: Dōdi. *Gwālior*: Kūno, Satanwāra, Sūrwaya, Bhind.

[This ♂ with wing 188 mm. clearly belongs to the Northern race. This is another of those birds which intergrade from north to south and I have already suggested (*J.B.N.H.S.*, xxxvii, 755) that the division between the races should be arbitrarily fixed along 20° N. Lat.—H.W.]

Met with springly.

Merops orientalis orientalis Latham. The Common Indian Bee-eater.

Specimens collected: *Bhōpāl*: 175 ♂, 176 ♀ 23-1-38 Mathār. *Gwālior*: 544 ♀ 25-3-38 Badarwās.

Elsewhere noted: *Bhōpāl*: Bhōpāl City and Environs, Sānchi, Dōdi. *Gwālior*: Satanwāra, Narwar Fort, Sūrwaya, Badarwās, Amjhēra. *Indore*: Indore City and Environs, Bijwār, Chōral, *Dhār*: Gūjri.

Not uncommon, but curiously sparse and local. 544 had a granular ovary and on that date (25 March) a small colony was busy digging nest-tunnels in earth bank of Sind River.

Merops superciliosus javanicus Horsf. The Blue-tailed Bee-eater.

Specimens collected: *Gwālior*: 679 ♂ 19-4-38 Bhind. *Indore*: 787 ♂, 788 o? 5-9-38 Mandlēshwar. *Dhār*: 834 ♀, 835 ♂ 10-9-38 Māndu.

Elsewhere noted: *Gwālior*: Gwālior Fort, Amjhēra, Shivpūri. *Indore*: Mhow.

Not met with in Central India between 4 January and 19 April. Fairly common in August/September. Testes of 679 (19 April) 7×4 mm.; 788 (5 Sept.) young of the season with imperfectly ossified skull.

Ceryle rudis leucomelanura Reichenbach. The Indian Pied Kingfisher.

Specimens collected: *Bhōpāl*: 96 ♂ 15-1-38 Dōdi. *Dhār*: 818 ♀ 7-9-38 Gūjri.

Elsewhere noted: *Bhōpāl*: Sānchi, Bhōpāl Lake. *Gwālior*: Satanwāra, Gūna, Rūthiai, Chandēri. *Indore*: Bijwār.

Testes of 96 (15 January) 12×8 mm. Nest 4 February! Ovary of 818 (7 Sept.) granular.

Alcedo atthis taprobana Kleinschm. The Common Ceylon Kingfisher.

Specimen collected: *Bhōpāl*: 100 ♂ 15-1-38 Dōdi.

[This is a very blue specimen with a long beak (46 mm. from skull) which I cannot separate from *taprobana* of South India. There are 4 birds in the British Museum from Mt. Abo which also seem to be very close to *taprobana*. Yet other specimens from localities like Neemuch, Poona, Saugor, Western Khandesh, Khandala and Matheran are *benghalensis*. The individual and sub-specific differences of this species are very difficult to understand, partly because one so seldom meets with a series of known breeding birds from any area, and partly, no doubt, because being entirely dependent on water supply in which local rain and drought play such an important part, the individual's movements may be very erratic and outside of the ordinary rules of migration.—H.W.]

Alcedo atthis bengalensis Gmelin. The Common Indian Kingfisher.

Specimens collected: *Bhōpāl*: 31 ♀ 9-1-38 Sānchi. *Indore*: 747 ♂ 30-8-38 Chōral.

Elsewhere noted: *Gwālior*: Gūna, Rūthiai, Chandēri. *Indore*: Bijwār. Singly or pairs at tanks and streams.

Ramphalcyon capensis gurali (Pearson). The Brown-headed Stork-billed Kingfisher.

Specimens collected: *Bhōpāl*: 134 ♀ 19-1-38 Dōdi. *Indore*: 721 ♂ 25-8-38 Bijwār.

Elsewhere noted: *Bhōpāl*: Bhōpāl Lake, Sānchi, Jaithāri. *Gwālior*: Kūno, Rūthiai, Chandēri (Panchamnagar).

Fairly common. Singly or pairs on wooded streams. Largest ovarian follicle of 134 (19 January) 2 mm. diam. Testes of 721 (25 August) 9×5 mm.

Halcyon smyrnensis smyrnensis (Linn). The White-breasted Kingfisher.

Specimens collected: *Bhōpāl*: 65 ♂ 11-1-38 Sānchi, 171 ♀ 22-1-38 Mathār. *Indore*: 748 ♀ 30-8-38 Chōral.

Elsewhere noted: *Gwālior*: Rūthiai, Chandēri (Panchamnagar). *Indore*: Bijwār.

Not uncommon.

Tockus birostris (Scopoli). The Common Grey Hornbill.

No specimens.

Noted: *Bhōpāl*: Sānchi, Jaithāri. *Gwālior*: Satanwāra, Sūrwaya, Amjhēra. *Indore*: Bijwār. *Dhār*: Māndu.
Common.

Upupa epops epops Linn. The European Hoopoe.

Specimen collected: *Gwālior*: 369 ♀ 27-2-38 Satanwāra.

[Wing 142.5 mm. and pale in colour, being evidently a migrant of the typical form.—H.W.]

Upupa epops ceylonensis Reichb. The Ceylon Hoopoe.

Specimen collected: *Bhōpāl*: 117 ♂ 17-1-38 Dōdi.

[Wing 131 and richly coloured; evidently belonging to the resident form.—H.W.]

Elsewhere noted (subspecies?): *Bhōpāl* City. *Gwālior*: Kūno, Gwālior Fort, Bhind, Shivpūri. *Dhār*: Gūjri.

369 had a granular ovary! On the same date another pair was interested in a hole in a masonry archway. On 17 April one was observed carrying food to nest.

Apus melba melba (Linn). The Alpine Swift.

Specimen collected: *Dhār*: 778 ♂ juv. 4-9-38 Gūjri.

Elsewhere noted: *Bhōpāl*: Jaithāri. *Gwālior*: Satanwāra. *Dhār*: Māndu.

[The specimen is a little small (wing 214 mm. ♂) for the typical race but it is certainly too pale for *A. m. bakeri* and it agrees with my series from N.-W. India. The skinner has noted on the label that the skull was soft and if this is correct the small size might be put down to its being a juvenile specimen. The wing is in moult, and according to the *Handbook of British Birds*, ii, 244, the wing is probably not moulted at the post-juvénal moult. Adult and juvenile Alpine Swifts are, however, very difficult to separate on plumage and it may be that the *Handbook* is wrong about the post-juvénal moult.—H.W.]

Small numbers usually seen hawking high over fired grass jungle. A colony (nesting?) about the enormous rock scarps and valley at Kānkra Kho, Māndu.

Apus affinis affinis (Gray). The Common Indian House-Swift.

Specimens collected: *Gwālior*: 481 ♀, 482 ♂ 14-3-38 Narwar Fort. *Indore*: 742 ♀ 30-8-38 Chōral.

Elsewhere noted: *Gwālior*: Satanwāra, Chandēri, Gwālior Fort. *Indore*: Bijwār, Mahēshwar. *Dhār*: Gūjri, Māndu. *Bhōpāl*: Bhōpāl city, Mathār, Jaithāri.

Common.

Hemiprocne coronata (Tickell). The Indian Crested Swift.

Specimens collected: *Bhōpāl*: 164 ♂, 165 ♂, 166 ♀, 167 ♀ 22-1-38 Mathār, 199 ♀ 25-1-38. *Indore*: 745 ♂, 746 ♀ 28-8-38 Chōral.

Elsewhere noted: *Bhōpāl*: Jaithāri. *Gwālior*: Chandēri. *Indore*: Bijwār. Gonads of January specimens maturing. ♂ ca 7×5 mm.; ♀ largest ovum 2 mm. Patchy, but not uncommon. Usually over teak and dry forest.

Caprimulgus indicus indicus Latham. The Indian Jungle Nightjar.

Specimens collected: *Gwālior*: 644 ♂ 12-4-38 Chandēri.

Testes 5×4 mm. Chasing and courtship in progress.

Caprimulgus monticolus monticolus Franklin. Franklin's Nightjar.

Specimens collected: *Bhōpāl*: 52 ♀ 10-1-38 Sānchi. *Gwālior*: 399 ♀ 28-2-38 Satanwāra, 484 ♂ 15-3-38 Narwar Fort.

Elsewhere noted: *Gwālior*: Chandēri.

Common. 399 breeding 28 February; largest ovum 5 mm. diam.

Caprimulgus asiaticus asiaticus Lath. The Common Indian Nightjar.

Specimens collected: *Bhōpāl*: 75 ♂ 14-1-38, 107 ♀, 108 ♂ 17-1-38 Dōdi. *Dhār*: 848 ♀ 12-9-38 Māndu.

Elsewhere noted: *Gwālior*: Narwar Fort, Chandēri,

[These specimens, as well as 2 in my collection obtained by Briggs at Mhow, all belong to the grey phase. No. 848 is undergoing a complete moult.—H.W.]

Common. Noisy March/April; silent August/September.

Tyto alba subsp.? The Barn Owl.

No specimens.

Noted only at Māndu, Dhār State, (Sept. 38) among ruins.

Asio flammeus flammeus (Pontopp.) The Short-eared Owl.

Specimen collected: *Bhōpāl*: 112 ♂ 17-1-38 Dōdi.

Elsewhere not noted.

Solitary at base of bush in stony scrub country. Stomach contained field rat.

Strix ocellata (Lesson). The Mottled Wood-Owl.

No specimens.

Noted: *Bhōpāl*: Mathār. *Indore*: Bijwār, Chōral. *Dhār*: Gūjri.

Apparently not uncommon.

Ketupa zeylonensis leschenaulti (Temm.). The Bengal Brown Fish-Owl.

Specimen collected: *Gwālior*: 630 ♂ 8-4-38 Chandēri (Betwa River).

Elsewhere noted: *Bhōpāl*: Mathār. *Gwālior*: Sūrwayā.

Stomach of specimen contained remains of *Varanus* lizard, ca. 12 inches long.

At Mathār (Narbada Valley, *Bhōpāl*) was heard the long-drawn kite-like whistle of what I take to be some sort of owl. It was in a densely bamboo covered forested ravine. The bird never gave a glimpse of itself, but the call kept moving farther and farther away as approached. I have heard this same or a closely resembling whistle, confirmed to be emanating from some owl of about the size of a kite, in the Biligirirangan Hills on the Mysore-Coimbatore border.

Otus (bakkamoena?) The Collared Scops Owl.

No specimens.

The mellow *what?.....what?* calls were heard in *Gwālior* State at Kūno, Narwar Fort and Chandēri.

Athene brama indica (Franklin). The Northern Spotted Owlet.

Specimens collected: *Bhōpāl*: 48 ♀ 10-1-38, 68 ♀ 11-1-38 Sānchi. *Gwālior*: 311 ♀, 312 ♂ 19-2-38 Kūno; 625 ♀ 8-4-38 Chandēri.

Elsewhere noted: *Bhōpāl*: Mathār, *Gwālior*: *Gwālior* City and Fort, Satanwāra, *Dhār*: Gūjri, Māndu.

[These specimens are intermediate in size and colour, but may be called *indica* under the arbitrary convention given in *J.B.N.H.S.*, xxxviii, 237.—H.W.]

Common. Ovary of 625 (8 April) granular.

Ninox scutulata lugubris (Tickell). The Indian Brown Hawk-Owl.

Specimen collected: *Gwālior*: 450 ♀ 9-3-38 Narwar Fort.

Elsewhere not noted.

Ægyptius monachus (Linn.). The Cinereous Vulture.

A solitary bird observed on a high bank among the ravines of the Chambal River near Dhōlpūr (*Gwālior* boundary) 17-8-39. Unconfirmed.

Sarcogyps calvus (Scopoli). The Black or Pondicherry Vulture.

Noted: *Bhōpāl*: Sānchi, Mathār, *Gwālior*: Kūno.

Common. Singly or twos and threes at carcasses.

Gyps fulvus fulvescens (Hume). The Indian Griffon Vulture.

Noted: *Bhōpāl*: Sānchi, Dōdi, Mathār. *Gwālior*: Kūno. *Dhār*: Māndu.

Near Māndu (Nālcha) are suitable cliffs said to be used by these vultures in winter for breeding.

Gyps indicus *subsp?* The Long-billed Vulture.

Noted: *Bhōpāl*: Mathār.

Common?

Pseudogyps bengalensis (Gmelin). The Indian White-backed Vulture.

Noted: *Bhōpāl*: Mathār; *Gwālior*: Kūno. *Dhār*: Māndu.

Common everywhere.

Neophron percnopterus ginginianus (Lath.). The Smaller White-backed Scavenger Vulture.

Noted: *Bhōpāl*: Sānchi, Dōdi, Mathār. *Gwālior*: Kūno, Satanwāra, Narwar Fort, Sūrwaya, Bhind.

Common all over Central India. 2 nests in main forks of large Banyan and Mango trees, 22 March, with birds brooding!

Falco subbuteo *subsp?* The Hobby.

Noted: *Gwālior*: Kūno.

Falco chiquera chiquera Dauden. The Red-headed Merlin.

Specimens collected: *Gwālior*: 569 ♂, 570 ♀ 28-3-38 Badarwās.

Testes 5×3 mm.; ovaries granular. A pair. Stomachs contained 1 leg each with feathers and remains of *Prinia sylvatica*.

Falco tinnunculus tinnunculus (Linn.). The European Kestrel.

Specimens collected: *Bhōpāl*: 233 ♂ 31-1-38 Jaithāri. *Gwālior*: 402 ♂ 2-3-38 Satanwāra, 486 ♂ 15-3-38 Narwar Fort.

Elsewhere noted: *Gwālior*: Kūno, Sardarpūr.

First of the season 17 September. Not abundant; occasional singles.

Falco jugger Gray. The Laggar Falcon.

Noted: *Gwālior*: Badarwās, Bāgh.

Aquila rapax vindhiana Franklin. The Indian Tawny Eagle.

Specimens collected: *Bhōpāl*: 105 ♂ 16-1-38 Dōdi. *Gwālior*: 320 ♂ 20-2-38 Kūno, 442 ♂ 8-3-38 Narwar Fort.

Elsewhere noted: *Bhōpāl*: Sānchi, Mathār, Jaithāri. *Gwālior*: Kūno, Satanwāra, Bhind.

Common.

Hieraëtus fasciatus fasciatus (Vieillot). Bonelli's Eagle.

Noted: *Gwālior*: Ummaidgarh Falls (Pārvati River), Kūno, Chhipōn (near Gūna). *Dhār*: Māndu.

Nisaëtus cirrhatu cirrhatu (Gmelin). The Indian Crested Hawk-Eagle.

Specimen collected: *Gwālior*: 604 ♂ 2-4-38 Chhipōn (near Gūna).

Circaëtus ferox (Gmelin). The Short-toed Eagle.

Specimens collected: *Gwālior*: 255 ♂ 12-2-38 Kūno.

Testes 15×10 mm.

Haematornis cheela *subsp?* The Crested Serpent-Eagle.

Noted: *Bhōpāl*: Mathār. *Gwālior*: Chandēri, *Indore*: Chōral.

Bufastur teesa (Franklin). The White-eyed Buzzard-Eagle.

Specimens collected: *Bhōpāl*: 26 ♂ 8-1-38 Sānchi, 184 ♂ 24-1-38 Mathār.

Elsewhere noted: *Bhōpāl*: Jaithāri, Dōdi, *Gwālior*: Satanwāra, Narwar Fort, Sardarpūr. *Dhār*: Gūjri.

Not uncommon but sparingly. Occasional singles.

Haliaëtus leucoryphus Pallas. Pallas's Fishing Eagle.

Noted: *Gwālior*: Chambal River (*Gwālior*-*Dhōlpūr* boundary).

Haliastur indus indus (Bodd.). The Brahmīny Kite.

Noted: *Bhōpāl* Lake; *Indore*: Bijwār.

Uncommon.

Milvus migrans govinda Sykes. The Pariah Kite.

Noted: *Bhōpāl*: Bhōpāl City, Sānchī, Dōdī, Mathār. *Gwālior*: Gwālior City, Satanwāra, *Indore*: Indore City.

Common, especially in and about towns.

Elaeus coeruleus vociferus (Latham). The Black-winged Kite.

Specimens collected: *Gwālior*: 467 ♀ 13-3-38 Narwar Fort, 490 ♀ 17-3-38 Surwaya.

Elsewhere noted: *Bhōpāl*: Mathār, Jaithāri. *Gwālior*: Kūno.

Sparse.

Circus macrourus (S. G. Gmelin). The Pale Harrier.

Specimens collected: *Bhōpāl*: 43 ♀ 9-1-38 Sānchī.

Elsewhere noted: *Gwālior*: Narwar Fort, Satanwāra, Amjhēra. *Dhār*: Māndu (or *pygargus?*).

First of season: 11 September.

Circus aeruginosus aeruginosus (Linn.). The Marsh Harrier.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra, Badarwās.

Astur badius dussumieri (Temm.). The Indian Shikra.

Specimens collected: *Gwālior*: 468 ♀ 13-3-38 Narwar Fort, 590 ♀ 2-4-38 Gūna, *Indore*: 758 ♂ imm. 31-8-38 Chōral.

Elsewhere noted: *Bhōpāl*: Sānchī, Mathār, Jaithāri.

Ovary of 468 (13 March) granular.

Crocopus phoenicopterus chlorogaster (Blyth). The Southern Green Pigeon.

Specimens collected: *Bhōpāl*: 1 ♂ 7-1-38, 13 ♀ 8-1-38 Sānchī; 241 ♀ 1-2-38 Jaithāri; *Gwālior*: 541 ♂ 22-3-38 Sūrwaya.

Elsewhere noted: *Bhōpāl*: Mathār, *Gwālior*: Kūno, Narwar Fort. *Indore*: Chōral. *Dhār*: Māndu.

[No. 241 has the forehead washed with greenish and a band of greenish across the base of the tail, but it agrees with the rest of the series which lack these greenish markings, in having the yellow abdomen of typical *chlorogaster*. 2 ♂♂ wing 190-192; 2 ♀♀ 187-190 mm.—H.W.]

Common. Ovary of 241 (1 February) granular. Testes of 541 (22 March) 5 × 3 mm.

Columba livia subsp? The Blue Rock-Pigeon.

Specimens collected: *Gwālior*: 298 ♀ 17-2-38, 316 ♀ 20-2-38 Kūno.

Elsewhere noted: *Gwālior*: Satanwāra, Narwar Fort, Sūrwaya, Bāgh, *Dhār*: Māndu.

[2 ♀♀ wings 220, 220 mm. Both have the rump concolorous with the back. In colour and size these birds match my series from the Punjab, but until material is available from Southern India to allow the characteristics of true *intermedia* to be satisfactorily appreciated I can neither define the ranges or differences of *intermedia* and *neglecta* nor identify individual birds with any satisfaction.—H.W.]

Ovaries of specimens mature. Largest follicle 5 mm.

Streptopelia orientalis meena Sykes. The Indian Rufous Turtle-Dove.

Specimen collected: *Gwālior*: 577 ♀ 29-3-38 Badarwās.

Elsewhere noted: *Bhōpāl*: Mathār, *Gwālior*: Chandēri.

[This is the form which breeds in the N.-W. Himalayas, *vide* my discussion of the names and races in *J.B.N.H.S.*, xxxviii, 678—H.W.]

Streptopelia chinensis suratensis (Gmelin). The Indian Spotted Dove.

Specimens collected: *Bhōpāl*: 174 ♀ 23-1-38, 183 ♂ 24-1-38 Mathār.

Elsewhere noted: *Bhōpāl*: Sānchī, Dōdī, Jaithāri. *Gwālior*: Kūno, Satanwāra, Narwar Fort, Sūrwaya, Badarwās, Gūna, Chandēri, Bāgh. *Indore*: Bijwār. *Dhār*: Gūjri, Māndu. Absent from Bhind.

Common. Facies preferences of the various doves more noticeable in dry season. Nest with c/2 on 19 September (Bāgh).

Streptopelia senegalensis cambayensis (Gmelin). The Indian Little Brown Dove.

No specimens.

Noted: *Bhōpāl*: Sānchī, Dōdi, Jaithāri. Absent at Mathār. *Gwālior*: Gwālior Fort and Environs, Kūno, Satanwāra, Narwar Fort, Sūrwaya, Badarwās, Gūna, Bhind. *Indore*: Bijwār. *Dhār*: Gūjri, Māndu. Bāgh.

Common.

Streptopelia decaocto decaocto (Frivaldszky). The Indian Ring Dove.

Specimens collected: *Bhōpāl*: 160 ♂ 22-1-38 Mathār. *Gwālior*: 296 ♂, 297 ♀ 17-2-35 Kūno.

Elsewhere noted: *Bhōpāl*: Sānchī, Dōdi, Jaithāri. *Gwālior*: Gwālior Fort and Environs, Satanwāra, Narwar Fort, Sūrwaya, Badarwās, Gūna, Bhind, Bāgh, *Indore*: Bijwār. *Dhār*: Gūjri, Māndu.

Common. Nests with c/2 and c/3 (1) respectively on 18 September (Bāgh).

Enopelia tranquebarica tranquebarica (Hermann). The Indian Red Turtle-Dove.

Specimens collected: *Gwālior*: 387 ♂ 28-2-38 Satanwāra; 475 ♂ 14-3-38 Narwar.

Elsewhere noted: *Bhōpāl*: Dōdi, *Gwālior*: Sūrwaya, Badarwās, Bhind. *Indore*: Bijwār.

The least common dove. Testes of 387 (28 February) 12 × 5 mm.

Pterocles exustus ellioti Bogdanow. The Common Indian Sandgrouse.

Specimens collected: *Bhōpāl*: 78 ♂ 14-1-38 Dōdi. *Gwālior*: 270 ♂ 14-2-38 Kūno.

Elsewhere noted: *Gwālior*: Ummaidgarh Falls (Pārvati River); Satanwāra, Sūrwaya.

Not uncommon.

Pterocles indicus (Gmelin). The Painted Sandgrouse.

Specimens collected: *Bhōpāl*: 179 ♀ 24-1-38 Mathār. *Gwālior*: 278 ♂ 15-2-38, 313 ♀ 20-2-38 Kūno; 390 ♂, 391 ♀ 28-2-38, 398 ♂ 1-3-38 Satanwāra.

Elsewhere noted: *Gwālior*: Narwar Fort.

Not uncommon in dry forest. Gonads of January and February specimens enlarged, but not fully mature.

Pavo cristatus Linn. The Common Peafowl.

Noted: *Bhōpāl*: Sānchī, *Gwālior*: Kūno, Narwar Fort, Gwālior Fort and Environs, Bhind and elsewhere. *Indore*: Bijwār.

Protected by law in Gwālior and Indore, consequently very abundant and tame; commonly about villages.

Gallus sonneratii Temm. The Grey Jungle-fowl.

Strangely enough not met with or heard at all although the biotope seemed eminently suitable. I have only one doubtful sight record of a hen from Mānpūr (Indore). It is said to occur in parts of Bhōpāl State and in the portion of Indore State lying in the Sātpuras south of the Narbada River.

Galloperdix lunulata (Valenc.). The Painted Spur-Fowl.

Specimens collected: *Bhōpāl*: 7 ♀ 7-1-38 Sānchī; *Gwālior*: 456 ♀, 457 ♂ 10-3-38, 488 ♀ 15-3-38 Narwar Fort, 614 ♂, 615 ♂ 5-4-38 Bajranggarh (near Gūna), 622 ♀ 7-4-38, 632 ♀ 9-4-38, 638 ♂ 11-4-38 Chandēri.

Elsewhere noted: *Gwālior*: Kūno, Sūrwaya.

[Nos. 457, 614, 615, 638 are all adult males, with 2 large spurs on each leg and no sign of moult, yet I find considerable variation on the wings which does not seem to have been recorded. These vary from a bird like No. 457 which has so much metallic green on the wing coverts that the chestnut is only visible on the outer half of the wing coverts (viewed *en masse*) and even there a considerable part of the feathers are glossy green, to a bird like No. 614. In this the wing coverts are practically all chestnut with the metallic green confined to inconspicuous tips on many of the feathers. There is similar variation in the amount of metallic green on the scapulars and central back. In

both varieties the white spotting persists. I see no evidence that this variation has any connection with age.

The other 5 birds are all apparently adult females and the variation in their plumage is trifling, confined to the brightness of the head markings and the presence or absence of shadowy lunate marking on the tips of the breast feathers. The spurs are one on each leg (twice), 2 on one and 1 on the other, and 2 on each leg (twice). No specimen shows any trace of moult.

Narwar is the most north-westerly locality from which I have seen this species.

Measurements :	Bill	Wing	Tail
4 ♂♂	23-24.5	153-167	120-129 mm.
5 ♀♀	22-23	150-157	107-128 mm.

These are slightly larger than the specimens obtained in the other surveys.—H.W.]

Not uncommon. Frequents stony *Anogeissus* covered hummocks and overgrown fort ruins. All the specimens of March and April had maturing gonads. Largest ovarian follicle of 632 (9 April) 4 mm. in diam.; testes of 638 (11 April) 10×6 mm.

Excalfactoria chinensis [chinensis] (Linn.). The Blue-breasted Quail.

Not met with, but a bunch of feathers picked up in grass and teak forest at Manthār (Bhōpāl State) 22 January.

Coturnix coturnix coturnix (Linn.). The Common or Grey Quail.

Specimens collected: *Bhōpāl*: 147 ♂? 19-1-38 Dōdi; *Gwālīor*: 349 ♂ 25-2-38 Satānwāra.

Elsewhere not noted.

Distinctly uncommon.

Coturnix coromandelica (Gmelin). The Black-breasted or Rain Quail.

No specimens.

Noted: *Bhōpāl*: Dōdi; *Gwālīor*: All along motor road from Gwālīor to Shivpūri in grassy country (August/September); *Indore*: Bijāsan Ramna near Indore City; *Dhār*: Grass fields near Jhira Palace (Dhār City).

Calling on every side during August/September.

Percidula asiatica asiatica (Latham). The Jungle Bush-Quail.

Specimens collected: *Bhōpāl*: 27 ♀ juv. 8-1-38 Sānchi; 130 ♀, 131 ♀ pull, 14-1-38 Dōdi; 237 ♀ 1-2-38 Jaithāri. *Gwālīor*: 314 ♂ 20-2-38 Kūno; 422 ♂, 423 ♀, 424 ♂, 425 ♀ 6-3-38, 431 ♂ 7-3-38 Narwar Fort; 878 ♂ 19-9-38 Bāgh; *Dhār*: 847 ♂ 11-9-38 Māndu. The birds from Northern Gwālīor are not quite typical.

[The two species of Bush-Quail of the genus *Percidula* have always given observers and writers trouble because of the superficial similarity between the plumages of the 2 species, because of the difficulty of understanding the plumage sequences without a good deal of material and that specially collected *ad hoc*, and finally because of the fact that the distributions of the two species largely coincide. It was also unfortunate that at an early stage in the recorded history of the 2 species the theory was propounded that the 2 species were found on different types of terrain, for this idea has been repeated again and again without careful verification and I believe that it will be found to be largely or entirely incorrect. A belief in it has, however, coloured most of the accounts of the species.

It remained for Mr. Stuart Baker in his review of this genus (*J.B.N.H.S.*, xxix, p. 310) to take a short-cut out of all these difficulties by propounding the superficially attractive theory that the 2 birds *asiatica* and *argoondah* were races of one species. This theory I examined at some length in the Eastern Ghats Survey review (*J.B.N.H.S.*, xxxviii, 685) and there I showed—at any rate to my own satisfaction—that the theory could not be accepted and that there were certainly two species, one of which at any rate had its own races. Attention having thus been attracted to the problem, I was fortunate in being able to assemble

further fresh material through the kindness and activity of Mr. H. W. Waite, Mr. E. A. D'Abreu and Col. R. Meinertzhagen, and now finally but very far from least, Mr. Sâlim Ali. The result has been to clear up matters still further.

When writing the Eastern Ghats review I could not understand the plumages of the two species and so worked on a very conservative basis, not being sure whether the differences observed in the British Museum series were individual or racial or how far reliance could be placed on the sexing of the various specimens. The new material however, and particularly the fine series of both species collected in this survey, has given me a very good (though not yet quite complete) idea of the plumage sequences of the two forms and I am now able to add to the very cautious conclusions originally ventured upon.

In the first place *argoondah*, with its more limited distribution, can now be seen to have two races: *argoondah* and *meinertzhageni* (*Bull. B.O.C.*, ccccvii, p. 9—type locality Nasirabad). In the second place it is clear that the three races of *asiatica* recognised in the Eastern Ghats Survey are not sufficient. This species, with its small size for a Galline bird and its habit of making exceedingly short flights even when disturbed, is sedentary beyond the average of its family and there is nothing surprising therefore in its having developed a number of races.

In the Eastern Ghats Survey I recognised three races of *asiatica*, namely the typical race, the red race *vidali* from South Konkan and *ceylonensis* from Ceylon, at the same time hinting that this might not be sufficient. Since then I have described the pale north-west race *punjaubi* (*Bull. B.O.C.* type locality Ambala). The present series has helped to emphasize what was not clear before—or at least which I did not dare recognise until the plumages were more clearly understood—that the typical race is a dark blackish-looking bird, most clearly differentiated on the one hand from the red bird found below the Ghats in the South Konkan, and from the grey or sandy coloured bird found in other parts of India. These birds I have now separated as *punjaubi* but suspect that new material when it is forthcoming will show that South Indian birds again require separation both on size and colour. In the meantime it may be helpful to sketch roughly the plumages of this species:—

The chick is thus described by Ticehurst (*J.B.N.H.S.*, xxxi, p. 376) from a specimen of *P.a. punjaubi* collected by me in the Kangra District:

From base of bill over crown, down centre of back to tail, a broad chestnut band edged on each side with dark brown; outside this from base of bill a broad ochraceous supra-orbital stripe reaching nape and surmounting a narrow dark brown superciliary stripe; ear coverts and short moustachial streak dark brown. Rest of upper parts dappled rusty brown and light; underparts ochraceous-grey.

The juvenile plumage (sexes alike and described from a pair of *P.a. punjaubi* collected by me in Kangra District) is as follows:—A broad band down the centre of the crown brown edged with blackish-brown; a broad fulvous-white supercilium from the lores to the posterior edge of the ear coverts; cheeks and ear coverts dark brown with whitish shaft streaks; upper plumage warm sandy brown, the feathers of the hindneck, upper back and wing-coverts with conspicuous fulvous shaft streaks and broken blackish bars, the shaft streaks becoming broader on the scapulars and the bars becoming black patches on their inner webs; primaries dark brown mottled and streaked with sandy fulvous; secondaries, tertiaries and tail warm sandy brown with fulvous shafts and mottled, speckled and barred with fulvous and blackish-brown; lower plumage vinous-buff, the chin, throat and breast with shining white shaft streaks.

This juvenile plumage seems to be moulted rather gradually during the first winter giving place to the respective adult male and female plumages. As in other game birds the outer two or three juvenile primaries, more pointed in character than those which will succeed them, are apparently retained to the first post nuptial moult, but they are not always easy to recognise.

No. 27 in this series is a juvenile in the plumage described above but is throughout in a far darker, blackish-brown key, following and emphasising the sub-specific difference between the typical race and *punjaubi*.

The adult male and female are easy to recognise and are as usually described. The adult male has black and white barred underparts with a chestnut chin and throat. The female has vinous-brown underparts with a chest-

nut chin and throat. It must, however, be realised that some adult females have an adumbration of black and white barring on the lower throat and breast which must not be confused with the truly barred black and white feathers which will be found irregularly on juvenile males which have moulted some of their juvenile feathers.—H.W.]

Common. No. 27 (8 January) and 131 (18 January) were juvenile and pullet respectively. The birds were mostly paired off in August-September. Testes of 847 (11 September) 11×6 mm.; of 878 (19 September) 11×7 mm. On 19 September a pair was observed accompanied by half-grown pullets.

***Perdica argoondah argoondah* (Sykes). The Rock Bush-Quail.**

Specimens collected: *Indore*: 733 ♀, 734 ♂ 29-8-38 Bijwār.

***Perdicula argoondah meinertzhageni* Whistler.**

Specimens collected: *Gwalior*: 392 ♀ 28-2-38 Satnwāra; 574 ♀, 575 ♂, 576 ♀ 29-3-38 Badarwās; 660 ♀ 17-4-38, 670 ♀, 671 ♂ 18-4-38 Bhind.

[The two birds from Indore State are very dark and agree beyond doubt with the typical race. The Gwalior series is not so uniform and four specimens (Nos. 392, 574, 660, 670) being in transition from juvenile to adult plumage, is not so easy to recognise. It is, however, certainly closer to *meinertzhageni*.

The adult plumage of this species is of course easily recognised from the corresponding adult plumages of *asiatica*. In the male the most marked characteristic is the dull brick-red chin and throat patch as distinct from chestnut. The female lacks the throat-patch altogether (in *asiatica* it is as distinct in the female as in the male) having the chin whitish and the throat concolorous with the rest of the lower plumage. The presence or absence of marking on the brown inner webs of the primaries is often cited as a distinguishing feature between the two species. It is correct that in *asiatica* the inner web is unmarked and this web is certainly as a rule barred or mottled or 'watered' with fulvous in *argoondah*, but it must be remembered that in some specimens the inner web is unmarked as in *asiatica*. These remarks only apply to the adult primaries. In both species the juvenile primaries are normally marked on the inner web. This character therefore must be used with great caution.

The chick of *argoondah* is as yet undescribed and I have seen no specimen of it.

The juvenile plumage may be thus described from a female in my collection of the race *meinertzhageni* from Nasirabad, the type locality: Crown and nape brown, barred with black, the feathers of the forehead with pale shafts; supercilium extending beyond ear coverts pale creamy-fulvous; ear coverts and cheeks mixed buffy-brown and dark brown; remainder of upper plumage earthy-brown, the feathers speckled and broadly barred with black, and with fulvous shaft streaks, these markings becoming obsolescent on the rump and upper tail coverts, primaries, secondaries, tertiaries and tail warm sandy brown, barred and freckled on both webs with brownish-black, the tertiaries with broad fulvous shaft stripes and black blotches on the inner webs; chin vinous buff; remainder of lower plumage fulvous-buff, the throat, breast and to a less extent the flanks barred with blackish-brown, the feathers with white shafts.

It will be noticed that this juvenile plumage differs from that of *asiatica* in one most marked detail, that instead of being roughly unicolorous below with shining white shaft streaks, the throat and breast are barred with blackish, thereby superficially resembling the adult male. This explains why in this species one meets numbers of immature females which seem to have a mixture of male and female plumage below. The warm vinous-buff of the adult female underparts is, in these birds, mixed with barred black and white feathers which are remains of the juvenile plumage. Whereas on the other hand in *asiatica* the birds with mixed vinous-buff and black and white barred plumage are young males exchanging the vinous-buff juvenile plumage for the adult black and white bars. In the one case the black and white bars are juvenile feathers, in the other case adult feathers. The distinction is interesting and important, and essential to an understanding of the two species.—H.W.]

Common. Gonads developed between April and September.

Francolinus pictus (Jardine & Selby). The Painted Partridge.

Specimens collected: *Bhōpāl*: 77 ♀ 14-1-38, 142 ♀ 19-1-38 Dōdi; 212 ♀ 26-1-38 Mathār. *Gwālior*: 526 ♂ 21-3-38 Sūrwayā; *Dhār*: 850 ♂, 851 ♂ 12-9-38 Māndū.

Elsewhere noted: *Bhōpāl*: City Environs, Jaithāri. *Gwālior*: Kūno, Badarwās, Gūna, Rūthiāi, Chandēri, Deharda-Isāgarh Road. *Indore*: Bijāsan Ramna (Indore City Environs), Bijwār, Mhow (around Bircha Lake).

[I cannot yet fully satisfy myself that there are two races of this species; nor can I obtain the necessary material to make out the plumages. The sexes can certainly not always be distinguished by plumage.—H.W.]

Common but not abundant. Breeding in September. Testes of 850 and 851 (12 Sept.) 19×12 and 17×11 mm. respectively. Local shikari asserted that male and female call alike.

Francolinus pondicerianus interpositus Hartert. The Northern Grey Partridge.

Specimens collected: *Bhōpāl*: 232 ♂ 31-1-38 Jaithāri. *Gwālior*: 317 ♀ 20-2-38 Kūno.

Elsewhere noted: *Bhōpāl*: Sānchi, Bhōpāl Lake Environs. *Gwālior*: Sūrwayā, Badarwās, Rūthiāi, Barāi (near Bhind), Gūna, Chandēri.

Common, but numbers much reduced in certain areas owing to excessive netting.

Breeding in March/April. Two broods of 2 or 3-day old chicks with parents on 19 April (Barāi *Dalbergia* Plantation). One brood tended by 3 adults!

Turnix suscitator taijoor (Sykes). The Common Bustard Quail.

Specimens collected: *Bhōpāl*: 22 ♀ 8-1-38 Sānchi, 79 ♀ 14-1-38 Dōdi. *Gwālior*: 528 ♀, 529 ♀ 21-3-38 Sūrwayā.

Elsewhere noted: *Gwālior*: Kūno, Badarwās, Chandēri Fort. *Indore*: Bijwār. *Dhār*: Māndū.

Not uncommon. Ovaries of specimens 21 March granular.

Turnix dussumieri (Temm.) The Little Button-Quail.

Specimen collected: *Gwālior*: 294 ♂ 17-2-38 Kūno.

Elsewhere not noted.

Apparently not common.

Hypotaenidia striata gularis (Horsf.). The Indian Blue-breasted Banded Rail.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra (This species or *Rallus aquaticus*?).

Amaurornis phoenicurus chinensis (Bodd.). The Indian White-breasted Waterhen.

No specimens.

Noted: *Bhōpāl*: Sānchi, Bhōpāl Lake, Jaithāri (on Tendōni River); *Indore*: Bijwār.

Gallinula chloropus indicus Blyth. The Indian Moorhen.

No specimens.

Noted: *Gwālior*: Shivpūri, Narwar (Sind River), Chandēri.

Fulica atra atra Linnaeus. The Coot.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra.

Metopidius indicus (Latham). The Bronze-winged Jacana.

Specimen collected: *Bhōpāl*: 2 ♀ 7-1-38 Sānchi.

Elsewhere noted: *Gwālior*: Satanwāra, Chandēri, Panchamnagar, Rāmnagar Tank. *Bhōpāl*: Bhōpāl Lake.

Hydrophasianus chirurgus (Scopoli). The Pheasant-tailed Jacana.

Specimen collected: *Indore*: 792 ♂ juv. 5-9-38 Mandlëshwar (Chöli Tank).

Noted: *Bhōpāl*: Bhōpāl Lake, *Gwālior*: Satanwāra, Chandēri, Rāmnagar Tank (near Gūna), *Indore*: Chōral (Balwāda Tank), *Dhār*: Māndu.

[The specimen is a juvenile with little of the down plumage remaining. It may be described as follows:

Forehead, crown and nape chestnut; hindneck still in down, warm buff with greyish bases and bounded by a shadowy blackish line from the ear-coverts to the shoulders; upper and lower back and the scapulars dark brown, the feathers broadly bordered with deep rusty fulvous; rump and upper tail coverts dark brown, the feathers broadly tipped with deep rusty fulvous, this colour divided by a dark brown bar in some feathers; wing coverts dove brown, barred with darker brown and washed with fulvous, a broad white band down the edge of the wing; primaries and secondaries short and in quill, but it is possible to see that they will be as in the adult though the filaments at the tips of the first three primaries are not so fully developed; tail not yet visible; whole lower plumage white, the earcoverts, sides of the throat and the breast faintly washed with salmon pink, the breast dully spotted with sooty-black. The carpal spur of the wing is already evident.—H.W.]

Common. Several juveniles on 5 September and a c/2 resting directly upon floating singāra (*Trapa bispinosa*) leaves (Chöli Tank, Mandlëshwar, Indore).

Rostratula benghalensis benghalensis (Linn.). The Painted Snipe.

Specimen collected: *Gwālior*: 376 ♀ 27-2-38 Satanwāra.

Elsewhere noted: *Gwālior*: Chandēri.

Antigone antigone antigone (Linnaeus). The Sarus Crane.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake, Sānchi (Gūlgāon Tank), *Gwālior*: Harsi Lake (Narwar Dist.). Sūrwāya, Chandēri; *Indore*: Chōral (Balwāda Tank), Mandlëshwar (Chöli Tank); *Dhār*: Māndu.

Common. Usually in pairs accompanied by sub-adult young—1 or 2—with-out red head. Nest in shallow reed-covered tank with c/2 on 11 September (Māndu).

Choriotus nigriceps (Vigors). The Great Indian Bustard.

No specimens.

Noted: *Gwālior*: Esāgarh.

Now said to be becoming increasingly rare in Gwālior territory and to be met with sparingly and rather sporadically in the following localities: Near Mohana; along Deharda-Esāgarh road in various spots; along Pāchchār-Esāgarh road near Sāruskhēri; west of Gwālior City near Tighāra Lake and Pagāra; near Jāura in Morena District; along portions of Shivpūri-Pōhri road. Greatly persecuted by shikaris and needs stringent protection.

Sypheotides indica (Miller). The Lesser Florican or Likh.

Specimens collected: *Indore*: 684 ♂ 21-8-38 Indore environs (Bijāsan Ranna); *Gwālior*: 871 ♂, 872 ♂ 17-9-38 Sardārpur (on Jhabua road, ca 4 m. from Rajgarh village).

The testes of the specimens—all in breeding plumage—measured 14×8, 12×5 and 8×4 respectively. They were busy leaping up into the air from time to time in nuptial display, and evidently preparing to breed.

Burhinus oedicephalus indicus (Salvadori). The Indian Stone-Plover.

Specimens collected: *Bhōpāl*: 8 ♀ 7-1-38, 49 ♂ 10-1-38 Sānchi, *Gwālior*: 565 ♂ 27-3-38 Badarwās.

Elsewhere noted: *Bhōpāl*: Dōdi, *Gwālior*: Kūno, Sūrwāya, Sardāpūr, Bāgh, *Dhār*: Gūjri.

Common. Often in flocks of 6 to 8. Vociferous during moonlit nights.

Esacus recurvirostris (Cuvier). The Great Stone-Plover.

Specimens collected: *Gwālior*: 329 ♂ 20-2-38 Kūno; 545 ♂ 25-3-38 Badarwās.

Elsewhere noted: *Gwālior*: Satanwāra, Narwar (Sind River), Chandēri (Betwa River).

Pairs on shingle banks and rocky beds of rivers. Testes of specimens 8×5 and 10×5 respectively.

Cursorius coromandelicus coromandelicus (Gmelin). The Indian Courser.

Specimens collected: *Gwālior*: 356 ♂, 357 ♀ 25-2-38 Satanwāra.

Elsewhere noted: *Gwālior*: Sūrwaya.

Not common. Gonads of specimens: ♂ 5×4 mm.; ♀ largest ovum 1 mm.

Gelochelidon nilotica nilotica (Gmelin). The Gull-billed Tern.

A single tern with black bill observed at Narwar (Sind River) on 14 March, flying steadily at great height due North, was evidently this species.

Sterna aurantia Gray. The Indian River Tern.

Specimen collected: *Gwālior*: 338 ♂ 24-2-38 Satanwāra.

Elsewhere noted: *Gwālior*: Gūna (Rāmpūra Tank), Chandēri.

Testes 7×5 mm.

Sterna melanogaster Temminck. The Black-bellied Tern.

Specimen collected: *Gwālior*: 612 ♀ 4-4-38 Gūna (Rāmpūra Tank).

Elsewhere noted: *Bhōpāl*: Dōdi.

Ovary granular.

Charadrius dubius curonicus Gmelin. The European Little Ringed Plover.

Specimen collected: *Bhōpāl*: 84 ♀ 14-1-38 Dōdi.

[This bird is still in immature plumage, but its measurements (bill from skull 17, wing 120.5, tail 63, tarsus 23 mm.) prevent me attributing it to anything but this race which is no doubt a winter visitor.—H.W.]

Charadrius dubius jerdoni (Legge). Jerdon's Little Ringed Plover.

Specimens collected: *Gwālior*: 327 ♀, 328 ♂ 20-2-38 Kūno, 413 ♂ 3-3-38

Satanwāra, 584 ♀, 585 ♂, 586 ♂ 1-4-38 Rūthiai; *Dhār*: 819 ♀ 7-9-38 Gūjri.

Elsewhere noted: *Gwālior*: Harsi Lake, Shivpūri.

[No. 819 is in juvenile plumage. The remainder are adults and from the state of their organs as recorded on the labels were doubtless on their breeding ground.

	Bill from skull	wing	tail	tarsus
4♂♂	15.5-16.5	111.5-115	59-62	24-24.5 mm.
2♀♀	15.5-16.5	114-117	62.5-63.5	24-25 mm.

They evidently belong to the resident race which is commonly known as *Ch.d.jerdoni* though as I pointed out in the Eastern Ghats Survey, there are no specimens from Ceylon available to establish what that race is actually like and whether it is the same as Indian birds.—H.W.]

Gonads of specimens between 20 February and 1 April maturing. Testes averaging 5×3 mm; ovaries granular.

Lobivanellus indicus indicus (Boddaert). The Indian Red-wattled Lapwing.

Specimen collected: *Bhōpāl*: 221 ♀ 30-1-38 Jaithāri.

Elsewhere noted: *Bhōpāl*: Bhōpāl Lake, Sānchi. *Gwālior*: Kūno, Satanwāra, Shivpūri, *Indore*: Bijwār.

Common. In the rainy season commonly seen along the grassy edges of motor roads.

Lobipluvia malabarica (Boddaert). The Yellow-wattled Lapwing.

Specimens collected: *Bhōpāl*: 42 ♀ 9-1-38 Sānchi, 128 ♂ 18-1-38 Dōdi.

Gwālior: 362 ♀ 26-2-38 Satanwāra.

Elsewhere noted: *Gwālior*: Kūno, Gūna, Rūthiai. *Indore*: Indore town outskirts. *Dhār*: Gūjri.

Not uncommon. Largest ovarian follicle of 362 (26 February) 3 mm.

Himantopus himantopus himantopus (Linn.). The Black-winged Stilt.

No specimens.

Noted: *Bhōpāl*: Dōdi; *Gwālior*: Satanwāra, Sūrwaya.

On village and irrigation tanks.

Tringa ochropus (Linnaeus). The Green Sandpiper.Specimen collected: *Bhōpāl*: 60 ♀ 10-1-38 Sānchi.Elsewhere noted: *Bhōpāl*: Bhōpāl Lake outskirts; Dōdi; *Gwālior*: Satanwāra, Narwar Fort, Sūrwayā, Badarwās, Chandēri; *Indore*: Bijwār, Chōral; *Dhār*: Gūjri.

Common in winter. Earliest date 26 August; latest 8 April.

Tringa stagnatilis (Bechstein). The Marsh Sandpiper.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra, Chandēri, Bhind.

Latest date 20 April.

Tringa glareola Linnaeus. The Wood Sandpiper.Specimen collected: *Gwālior*: 503 ♀ 18-3-38 Sūrwayā.Elsewhere noted: *Gwālior*: Chandēri.

Latest date 8 April.

Tringa hypoleucos Linnaeus. The Common Sandpiper.Specimen collected: *Dhār*: 775 ♂ 3-9-38 Gūjri.Noted: *Bhōpāl*: Sānchi, Dōdi, Bhōpāl; *Gwālior*: Satanwāra, Narwar Fort, Sūrwayā, Chandēri, Bhind.

Common. Last date 19 April.

Tringa erythropus (Vroeg). The Spotted or Dusky Redshank.Specimen collected: *Bhōpāl*: 85 ♀ 14-1-38 Dōdi.Elsewhere noted (this or *totanus?*): *Gwālior*: Satanwāra, Sūrwayā.**Glottis nebularia** (Gunnerus). The Greenshank.Specimen collected: *Bhōpāl*: 29 ♀ 9-1-38 Sānchi.Elsewhere noted: *Bhōpāl*: Dōdi; *Gwālior*: Kūno, Satanwāra, Narwar (Sind River), Sūrwayā, Rūthiai, Chandēri, Bhind; *Dhār*: Gūjri.

Earliest date 3 September; latest 19 April.

Erolia temminckii (Leisler): Temminck's Stint.Specimens collected: *Gwālior*: 339 ♀ 24-2-38, 352 ♂ 25-2-38 Satanwāra.Elsewhere noted: *Bhōpāl*: Dōdi; *Gwālior*: Harsī Lake.

Small flocks.

Capella gallinago gallinago (Linn.). The Common or Fantail Snipe.Specimen collected: *Gwālior*: 378 ♀ 27-2-38 Satanwāra.Elsewhere noted: *Gwālior*: Sūrwayā, Chandēri.

Latest date 8 April.

Capella stenura (Bonaparte). The Pintailed Snipe.

No specimens.

Noted: *Gwālior*: Satanwāra.**Lymnocyptes minimus** (Brunnich). The Jack Snipe.Specimen collected: *Gwālior*: 377 ♀ 27-2-38 Satanwāra.**Phalacrocorax carbo sinensis** (Shaw). The Indian Large Cormorant.

No specimens.

Noted: *Gwālior*: Ummaidgarh Falls, Pārvati River.**Phalacrocorax niger** (Vieillot). The Little Cormorant.

No specimens.

Noted: *Bhōpāl*: Sānchi, Dōdi, Bhōpāl Lake; *Gwālior*: Satanwāra, Narwar, Chandēri.**Anhinga melanogaster** Pennant.Specimen collected: *Gwālior*: 449 ♀ 9-3-38 Narwar Fort (Katōra Tāl).Elsewhere noted: *Bhōpāl*: Sānchi, Jaithāri; *Gwālior*: Ummaidgarh Falls (Pārvati R.)*Indore*: Mandlēshwar.

[The innermost tertiary and the tail-feathers show the stiff corrugations which are such a marked feature of this species and which presumably have some connection with its wonderful diving powers.—H.W.]

Nesting in company with *Ardea purpurea* and *Ardeola grayii* on Babūl in Sāngi Tank near Mandlēshwar. Several nearly full-fledged young on 5 September.

Platalea leucorodia Linnaeus. The Spoonbill.

No specimens.

Noted: *Bhōpāl*: Sānchi (Gūlgāon Tank); *Gwālior*: Satanwāra, Sūrwaya. Small flocks.

Threskiornis melanocephala (Latham). The White Ibis.

No specimens.

Noted: *Bhōpāl*: Sānchi; *Gwālior*: Satanwāra, Sūrwaya, Chandēri. Small parties.

Pseudibis papillosa (Temm. and Lang). The Indian Black Ibis.

No specimens.

Noted: *Bhōpāl*: Sānchi; *Gwālior*: Kūno, Satanwāra, Narwar, Chandēri, Bhind.

Pairs or small parties.

Ciconia ciconia subsp.? The White Stork.

No specimens.

Noted: *Gwālior*: Chandēri (3 or 4 on a tank, 8-4-38). The only meeting in Central India.

Dissoura episcopus episcopus (Bodd.). The White-necked Stork.

No specimens.

Noted: *Gwālior*: Kūno, Harsi Lake, Rūthiai.

Large stick nest on top of bare *Bombax malabaricum* ca 40 ft. up, on river bank at Rūthiai 1-4-38. 1 bird brooding, the other perched on rim.

Xenorhynchus asiaticus asiaticus (Latham). The Black-necked Stork.

No specimens.

Noted: *Gwālior*: Kūno, Harsi Lake, Sūrwaya, Chandēri, Esāgarh. Singly or pairs.

Ibis leucocephalus (Pennant). The Painted Stork.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Kūno, Satanwāra, Harsi Lake, Narwar (Sind River). Small parties.

Anastomus oscitans (Bodd.). The Open-billed Stork.

No specimens.

Noted: *Gwālior*: Kūno, Satanwāra, Chandēri.

Singly or in small parties. Uncommon and excessively shy.

Ardea purpurea manillensis Meyen. The Eastern Purple Heron.

No specimens.

Noted: *Bhōpāl*: Sānchi, *Gwālior*: Satanwāra, Rāmpūra Tank (near Gūna), Chandēri; *Indore*: Mandlēshwar.

Nesting in company with *Anhinga* and *Ardeola* on Babūl in Sāngi Tank near Mandlēshwar, 5 September; several nearly full-fledged young awkwardly clambering about the branches.

Ardea cinerea (rectirostris) Gould. The Eastern Grey Heron.

No specimens.

Noted: *Gwālior*: Kūno, Satanwāra, Narwar, Rāmpūra Tank (near Gūna), Bhind.

Solitarious.

Egretta alba subsp.? The Large Egret.

No specimens.

Noted: *Bhōpāl*: Dōdi; *Gwālior*: Satanwāra.
Solitaries.**Egretta intermedia intermedia** (Wagler). The Indian Smaller Egret.

No specimens.

Noted: *Bhōpāl*: Sānchi, Bhōpāl Lake; *Gwālior*: Ummaidgarh Falls (Pārvati River), Narwar, Chandēri.**Egretta garzetta garzetta** (Linn.). The Little Egret.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Narwar (Sind River), Chandēri.**Bulbulcus ibiscoromandus** (Boddaert). The Cattle Egret.

No specimens.

Noted: *Gwālior*: Narwar, Sardārpūr; *Indore*: Mānpūr; *Dhār*: Gūjri, Māndu.**Butorides striatus javanicus** (Horsfield). The Indian Little Green Heron.Specimen collected: *Bhōpāl*: 136 ♀ 19-1-38 Dōdi.Elsewhere noted: *Bhōpāl*: Jaithāri (Tendōni River); *Gwālior*: Bajranggarh (near Gūna).**Ardeola grayii** (Sykes). The Indian Pond Heron.Specimen collected: *Gwālior*: 465 ♂ 12-3-38 Narwar Fort (Kātōra Tāl).Elsewhere noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra, Chandēri; *Indore*: Mandlēshwar.Common. Nesting in company with *Anhinga* and *Ardea purpurea* in Babūl in Sāngi Tank near Mandlēshwar, 5 September.**Phoenicopterus ruber roseus** Pallas. The Flamingo.

No specimens.

Noted: *Indore*: Mandlēshwar (Chōli Tank).

4 birds flying high overhead, 5 September.

Sarkidiornis melanotos Pennant. The Nukhta or Comb-Duck.Specimens collected: *Gwālior*: 491 ♂, 492 ♀ 17-3-38 Sūrwaya, 535 ♀ 22-3-38.Elsewhere noted: *Bhōpāl*: Sānchi (Gūlgāon Tank); *Gwālior*: Chandēri (Panchamnagar).

[No. 535 is an immature bird differing from the adult female in having less gloss on the black parts of the upper plumage; in having the white of the hindneck sullied with brown and barred with sooty-brown and black; the lower back and rump are dull greyish-white, the feathers edged with brownish and the upper tail coverts and tail are brown without gloss.—H.W.]

The ovary of 535, however was conspicuously granular suggesting that the bird was going to breed shortly.

Fairly common. Small parties and flocks up to 25.

Nettopus coromandelianus coromandelianus (Gmelin). The Cotton Teal.Specimens collected: *Dhār*: 827 ♀, 828 ♂ 9-9-38 Māndu.Elsewhere noted: *Bhōpāl*: Sānchi (Gūlgāon Tank); *Gwālior*: Chandēri, Esāgarh; *Indore*: Chōral (Balwāda Tank), Chōli Tank (near Mandlēshwar).

Fairly common in small numbers. Specimens a breeding pair. Testes of ♂ 29×18 mm.; soft-shelled oviduct egg in ♀ measuring 40×29 mm.

Anser indicus (Latham). The Bar-headed Goose.

No specimens.

Noted: *Gwālior*: Along Shivpūri-Pohri road, 8 miles from the former.

A flock of about 50 on a tank, 11 February.

Dendrocygna javanica (Horsf.). The Lesser or Common Whistling Teal.

No specimens.

Noted: *Gwālior*: Chandēri; *Dhār*: Māndu.

Small flocks up to end of April. A pair on 9 Sept.—evidently breeding.

Casarca ferruginea (Vroeg). The Ruddy Sheldrake.

No specimens.

Noted: *Gwālior*: Kūno, Satanwāra, Harsi Lake, Chandēri, Bhind.

Usually pairs. Once a flock of about 30. Latest date 19 April.

Mareca penelope (Linn.). The Wigeon.

No specimens.

Noted: *Gwālior*: Satanwāra, Chandēri (near Panchnagar).

Nettion crecca crecca (Linn.). The Common Teal.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake, Dōdi; *Gwālior*: Kūno, Satanwāra.

Small parties on tanks.

Dafila acuta (Linn.). The Pintail.

No specimens.

Noted: *Gwālior*: Chandēri.

Several on tank.

Spatula clypeata (Linn.). The Shoveller.

No specimens.

Noted: *Gwālior*: Satanwāra.

Nyroca ferina ferina (Linn.). The Pochard or Dun Bird.

No specimens.

Noted: *Gwālior*: Satanwāra.

Nyroca rufa rufa (Linn.). The White-eyed Pochard.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra.

The majority of duck on Bhōpāl Lake (2 February) were of this species.

Nyroca fuligula fuligula (Linn.). The Tufted Pochard.

No specimens.

Noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra.

Podiceps ruficollis capensis Salvadori. The Indian Little Grebe.

Specimens collected: *Gwālior*: 497 ♀ 17-3-38 Sūrwaya, 530 ♀ 21-3-38.

Elsewhere noted: *Bhōpāl*: Bhōpāl Lake; *Gwālior*: Satanwāra; *Dhār*: Māndu.

Fairly common. Ovaries of both specimens granular.

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(THE END)